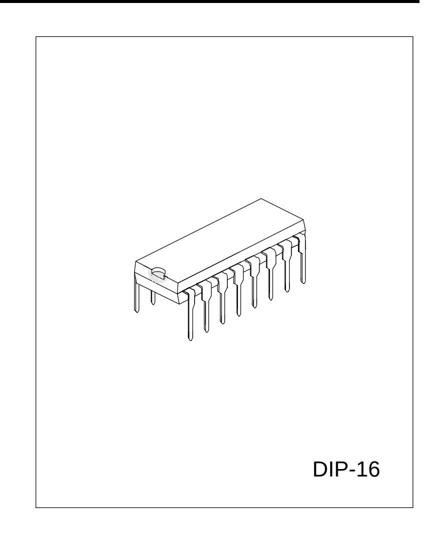
I-CHIP AM/FM RADIO IC



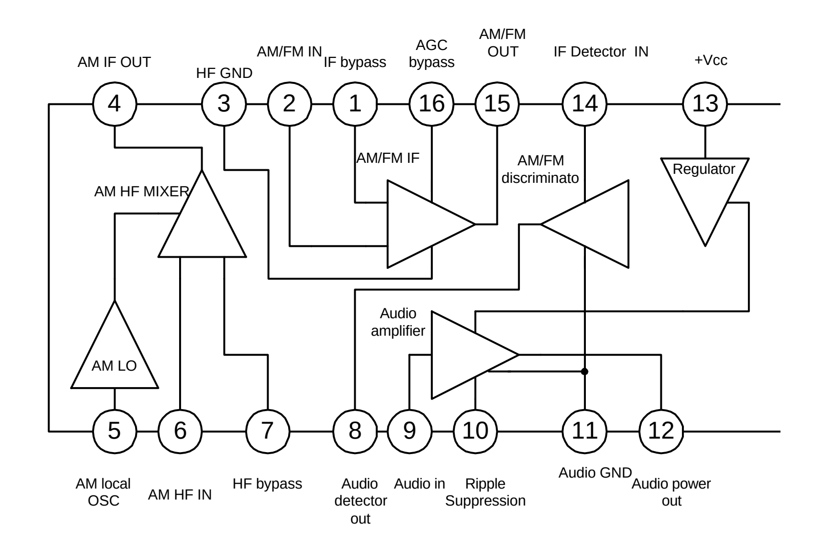
DESCRIPTION

UTC TA7613AP Is A One-Chip AM/FM Radio Integrated Circuit That Is Suitable For Portable Radio Applications. It Includes AM Amplifier, Local OSC, AM Mixer, AM/FM Amplifier, AM AGE, FM AGE Circuit And Also Class B Audio Power Amplifier.

FEATURES

*Low External Components Count.
*Wide Operating Voltage : 3 - 13 V.
*Internal Regulated Supply For Constant Current Operation.
*DC Selection Of AM/FM Mode.

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	VCC	11	V
Supply Current	ICC	44	mA
Power Dissipation	PD	600	mW
Thermal Resistance	RJ-A	100	°C /W
Operating Temperature	TOPX	-18 ~ +65	°C
Storage Temperature	TSTG	-40 ~ +125	°C

NOTE:Ta>25°C, DERATE WITH 10mW/°C UNLESS SPECIFIED.

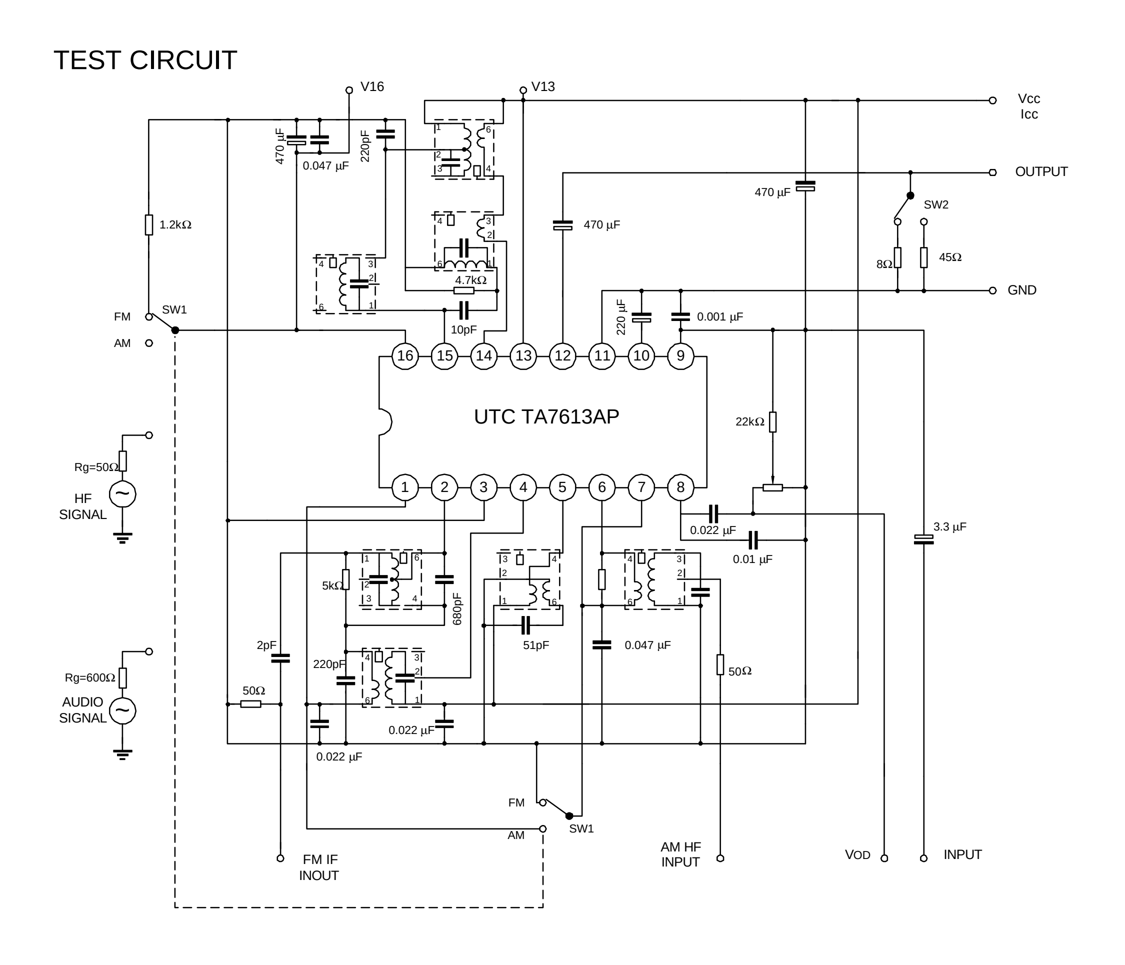
ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Circuit Current	ICCQ	SW1→FM,VCC=3V	7	12	17	mA
		SW1→FM,VCC=9V	10	17	23	
V Pin 16 (FM)	V16(FM)	SW1→FM,ICC=42mA	2.0	2.4	3.1	V
Limiting Voltage	VIN(Lim)	SW1→FM,VCC=5.5V,-3db V16=2.4V,VR=Min.		57		dBμV
Internal Regulated Voltage	VCC	SW1→AM,ICC=42mA	12.5	13.2	14.0	V
V Pin 16 (AM)	V16(AM)	SW1→AM,VCC=9V	1.4		1.9	V
Signal to Noise Ratio	VO	SW1→AM,VCC=12V,VIN=37dB SW2→45Ω,V16=1.4V	1.5	3.0		V
Maximum Sensitivity	S/N	SW1→AM,VCC=5.5V, SW2→8Ω,VIN=37.5dB	15	20		dB
Power Output	POUT	SW2→8Ω,VCC=5.5V,F=1KHZ VR=Min. THD=10%	0.28			W
Total Harmonic Distortion	THD	SW2→45Ω,ICC=42mA,F=1KHZ VR=Min. VOUT=2V		0.5	4.0	%
Voltage Gain	GV	SW2→8Ω,VCC=5.5V,f=1KHZ VR=Min.		40		dB

INPUT - OUTPUT IMPEDANCE(Ta=25°C,VCC=6V)

PARAMETER	SYMBOL	TEST CONDITIONS	VALUE	UNIT
Pin 2 Input	Rip2(AM)	f=465KHZ	200	kΩ
Impedance (AM)	Cip2(AM)	f=465KHZ	3	pF
Pin 2 Input	Rip2(FM)	f=10.7MHZ	30	kΩ
Impedanc(FM)	Cip2(FM)	f=10.7MHZ	3.5	pF
Pin 4 Output	Rop4	f=465KHZ	300	kΩ
Impedance	Cop4	f=465KHZ	6	pF
Pin 6 Input	Rip6	f=1MHZ	50	kΩ
Impedance	Cip6	f=1MHZ	5	pF
Pin 14 Input	Rip14(AM)	f=465KHZ	300	kΩ
Impedance(AM)	Cip14(AM)	f=465KHZ	3.5	pF
Pin 14 Input	Rip14(FM)	f=10.7MHZ	300	kΩ
Impedance(FM)	Cip14(FM)	f=10.7MHZ	4	pF
Pin 15 Output	Rop15(AM)	f=465KHZ	300	kΩ
Impedance(AM)	Cop15(AM)	f=465KHZ	5.5	pF
Pin 15 Output	Rop15(FM)	f=10.7MHZ	300	kΩ
Impedanc(FM)	Cop15(FM)	f=10.7MHZ	6	pF

TEST CIRCUIT




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